



PCT

RAW SEQUENCE LISTING

DATE: 07/06/2004

PATENT APPLICATION: US/10/500,240

TIME: 12:24:21

Input Set : A:\Gfi102pc.app

Output Set: N:\CRF4\07062004\J500240.raw

3 <110> APPLICANT: GLYCOFI, INC.
 5 <120> TITLE OF INVENTION: METHODS TO ENGINEER MAMMALIAN-TYPE CARBOHYDRATE
 6 STRUCTURES
 8 <130> FILE REFERENCE: GFI/102 PCT
 C--> 10 <140> CURRENT APPLICATION NUMBER: US/10/500,240
 C--> 11 <141> CURRENT FILING DATE: 2004-06-25
 13 <150> PRIOR APPLICATION NUMBER: 60/344,169
 14 <151> PRIOR FILING DATE: 2001-12-27
 16 <160> NUMBER OF SEQ ID NOS: 106
 18 <170> SOFTWARE: PatentIn Ver. 2.1
 20 <210> SEQ ID NO: 1
 21 <211> LENGTH: 35
 22 <212> TYPE: DNA
 23 <213> ORGANISM: Artificial Sequence
 25 <220> FEATURE:
 26 <223> OTHER INFORMATION: Description of Artificial Sequence: Primer
 28 <400> SEQUENCE: 1
 29 ggtgttttgt tttctagatc tttgcaytay cartt 35
 32 <210> SEQ ID NO: 2
 33 <211> LENGTH: 36
 34 <212> TYPE: DNA
 35 <213> ORGANISM: Artificial Sequence
 37 <220> FEATURE:
 38 <223> OTHER INFORMATION: Description of Artificial Sequence: Primer
 40 <400> SEQUENCE: 2
 41 agaatttggt gggtaagaat tccarcacca ytcrtg 36
 44 <210> SEQ ID NO: 3
 45 <211> LENGTH: 32
 46 <212> TYPE: DNA
 47 <213> ORGANISM: Artificial Sequence
 49 <220> FEATURE:
 50 <223> OTHER INFORMATION: Description of Artificial Sequence: Primer
 52 <400> SEQUENCE: 3
 53 cctaagctgg tatgcgttct ctttgccata tc 32
 56 <210> SEQ ID NO: 4
 57 <211> LENGTH: 30
 58 <212> TYPE: DNA
 59 <213> ORGANISM: Artificial Sequence
 61 <220> FEATURE:
 62 <223> OTHER INFORMATION: Description of Artificial Sequence: Primer
 64 <400> SEQUENCE: 4
 65 gcggcataaa caataataga tgctataaaag 30
 68 <210> SEQ ID NO: 5

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69 <211> LENGTH: 20
70 <212> TYPE: DNA
71 <213> ORGANISM: Artificial Sequence
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74 <223> OTHER INFORMATION: Description of Artificial Sequence: Primer
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77 aattaaccct cactaaaggg                                20
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81 <211> LENGTH: 22
82 <212> TYPE: DNA
83 <213> ORGANISM: Artificial Sequence
85 <220> FEATURE:
86 <223> OTHER INFORMATION: Description of Artificial Sequence: Primer
88 <400> SEQUENCE: 6
89 gtaatacgac tcactatagg gc                                22
92 <210> SEQ ID NO: 7
93 <211> LENGTH: 24
94 <212> TYPE: DNA
95 <213> ORGANISM: Artificial Sequence
97 <220> FEATURE:
98 <223> OTHER INFORMATION: Description of Artificial Sequence: Primer
100 <400> SEQUENCE: 7
101 ccacatcatc cgtgctacat atag                                24
104 <210> SEQ ID NO: 8
105 <211> LENGTH: 44
106 <212> TYPE: DNA
107 <213> ORGANISM: Artificial Sequence
109 <220> FEATURE:
110 <223> OTHER INFORMATION: Description of Artificial Sequence: Primer
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118 <212> TYPE: DNA
119 <213> ORGANISM: Artificial Sequence
121 <220> FEATURE:
122 <223> OTHER INFORMATION: Description of Artificial Sequence: Primer
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125 ccatccagtg tcgaaaacga gccaatgggt catgtctata aatc        44
128 <210> SEQ ID NO: 10
129 <211> LENGTH: 24
130 <212> TYPE: DNA
131 <213> ORGANISM: Artificial Sequence
133 <220> FEATURE:
134 <223> OTHER INFORMATION: Description of Artificial Sequence: Primer
136 <400> SEQUENCE: 10
137 agcctcagcg ccaacaagcg atgg                                24
140 <210> SEQ ID NO: 11
141 <211> LENGTH: 44

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142 <212> TYPE: DNA
143 <213> ORGANISM: Artificial Sequence
145 <220> FEATURE:
146 <223> OTHER INFORMATION: Description of Artificial Sequence: Primer
148 <400> SEQUENCE: 11
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152 <210> SEQ ID NO: 12
153 <211> LENGTH: 44
154 <212> TYPE: DNA
155 <213> ORGANISM: Artificial Sequence
157 <220> FEATURE:
158 <223> OTHER INFORMATION: Description of Artificial Sequence: Primer
160 <400> SEQUENCE: 12
161 gatttataga catgaaccat tggctcgttt tcgacactgg atgg          44
164 <210> SEQ ID NO: 13
165 <211> LENGTH: 20
166 <212> TYPE: DNA
167 <213> ORGANISM: Artificial Sequence
169 <220> FEATURE:
170 <223> OTHER INFORMATION: Description of Artificial Sequence: Primer
172 <400> SEQUENCE: 13
173 atcctttacc gatgctgtat          20
176 <210> SEQ ID NO: 14
177 <211> LENGTH: 27
178 <212> TYPE: DNA
179 <213> ORGANISM: Artificial Sequence
181 <220> FEATURE:
182 <223> OTHER INFORMATION: Description of Artificial Sequence: Primer
184 <400> SEQUENCE: 14
185 ataacagtat gtgttacacg cgtgtag          27
188 <210> SEQ ID NO: 15
189 <211> LENGTH: 36
190 <212> TYPE: DNA
191 <213> ORGANISM: Artificial Sequence
193 <220> FEATURE:
194 <223> OTHER INFORMATION: Description of Artificial Sequence: Primer
196 <400> SEQUENCE: 15
197 tcctggcgcg ccttcccag agaaactggcc tccctc          36
200 <210> SEQ ID NO: 16
201 <211> LENGTH: 37
202 <212> TYPE: DNA
203 <213> ORGANISM: Artificial Sequence
205 <220> FEATURE:
206 <223> OTHER INFORMATION: Description of Artificial Sequence: Primer
208 <400> SEQUENCE: 16
209 aattaattaa ccctagccct ccgctgtatc caacttg          37
212 <210> SEQ ID NO: 17
213 <211> LENGTH: 28
214 <212> TYPE: DNA

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215 <213> ORGANISM: Artificial Sequence
217 <220> FEATURE:
218 <223> OTHER INFORMATION: Description of Artificial Sequence: Primer
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224 <210> SEQ ID NO: 18
225 <211> LENGTH: 28
226 <212> TYPE: DNA
227 <213> ORGANISM: Artificial Sequence
229 <220> FEATURE:
230 <223> OTHER INFORMATION: Description of Artificial Sequence: Primer
232 <400> SEQUENCE: 18
233 ctgattgctt atcaacgaga attccttg 28
236 <210> SEQ ID NO: 19
237 <211> LENGTH: 28
238 <212> TYPE: DNA
239 <213> ORGANISM: Artificial Sequence
241 <220> FEATURE:
242 <223> OTHER INFORMATION: Description of Artificial Sequence: Primer
244 <400> SEQUENCE: 19
245 tgttggtttc tcagatgata agttgggtg 28
248 <210> SEQ ID NO: 20
249 <211> LENGTH: 29
250 <212> TYPE: DNA
251 <213> ORGANISM: Artificial Sequence
253 <220> FEATURE:
254 <223> OTHER INFORMATION: Description of Artificial Sequence: Primer
256 <400> SEQUENCE: 20
257 agagagagat ggctttcttt tctccctgg 29
260 <210> SEQ ID NO: 21
261 <211> LENGTH: 27
262 <212> TYPE: DNA
263 <213> ORGANISM: Artificial Sequence
265 <220> FEATURE:
266 <223> OTHER INFORMATION: Description of Artificial Sequence: Primer
268 <400> SEQUENCE: 21
269 aaatcaagt gatgaaggac atgtggc 27
272 <210> SEQ ID NO: 22
273 <211> LENGTH: 28
274 <212> TYPE: DNA
275 <213> ORGANISM: Artificial Sequence
277 <220> FEATURE:
278 <223> OTHER INFORMATION: Description of Artificial Sequence: Primer
280 <400> SEQUENCE: 22
281 agcgatgcta taggcagtct ttgcagag 28
284 <210> SEQ ID NO: 23
285 <211> LENGTH: 4
286 <212> TYPE: PRT
287 <213> ORGANISM: Saccharomyces cerevisiae

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RAW SEQUENCE LISTING

DATE: 07/06/2004

PATENT APPLICATION: US/10/500,240

TIME: 12:24:21

Input Set : A:\Gfil02pc.app

Output Set: N:\CRF4\07062004\J500240.raw

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289 <400> SEQUENCE: 23
290 His Asp Glu Leu
291 1
294 <210> SEQ ID NO: 24
295 <211> LENGTH: 458
296 <212> TYPE: PRT
297 <213> ORGANISM: Saccharomyces cerevisiae
299 <220> FEATURE:
300 <221> NAME/KEY: MOD_RES
301 <222> LOCATION: (304)..(318)
302 <223> OTHER INFORMATION: Variable amino acid
304 <220> FEATURE:
305 <221> NAME/KEY: MOD_RES
306 <222> LOCATION: (416)..(436)
307 <223> OTHER INFORMATION: Variable amino acid
309 <400> SEQUENCE: 24
310 Met Glu Gly Glu Gln Ser Pro Gln Gly Glu Lys Ser Leu Gln Arg Lys
311 1 5 10 15
313 Gln Phe Val Arg Pro Pro Leu Asp Leu Trp Gln Asp Leu Lys Asp Gly
314 20 25 30
316 Val Arg Tyr Val Ile Phe Asp Cys Arg Ala Asn Leu Ile Val Met Pro
317 35 40 45
319 Leu Leu Ile Leu Phe Glu Ser Met Leu Cys Lys Ile Ile Ile Lys Lys
320 50 55 60
322 Val Ala Tyr Thr Glu Ile Asp Tyr Lys Ala Tyr Met Glu Gln Ile Glu
323 65 70 75 80
325 Met Ile Gln Leu Asp Gly Met Leu Asp Tyr Ser Gln Val Ser Gly Gly
326 85 90 95
328 Thr Gly Pro Leu Val Tyr Pro Ala Gly His Val Leu Ile Tyr Lys Met
329 100 105 110
331 Met Tyr Trp Leu Thr Glu Gly Met Asp His Val Glu Arg Gly Gln Val
332 115 120 125
334 Phe Phe Arg Tyr Leu Tyr Leu Thr Leu Ala Leu Gln Met Ala Cys
335 130 135 140
337 Tyr Tyr Leu Leu His Leu Pro Pro Trp Cys Val Val Leu Ala Cys Leu
338 145 150 155 160
340 Ser Lys Arg Leu His Ser Ile Tyr Val Leu Arg Leu Phe Asn Asp Cys
341 165 170 175
343 Phe Thr Thr Leu Phe Met Val Val Thr Val Leu Gly Ala Ile Val Ala
344 180 185 190
346 Ser Arg Cys His Gln Arg Pro Lys Leu Lys Lys Ser Leu Ala Leu Val
347 195 200 205
349 Ile Ser Ala Thr Tyr Ser Met Ala Val Ser Ile Lys Met Asn Ala Leu
350 210 215 220
352 Leu Tyr Phe Pro Ala Met Met Ile Ser Leu Phe Ile Leu Asn Asp Ala
353 225 230 235 240
355 Asn Val Ile Leu Thr Leu Leu Asp Leu Val Ala Met Ile Ala Trp Gln
356 245 250 255
358 Val Ala Val Ala Val Pro Phe Leu Arg Ser Phe Pro Gln Gln Tyr Leu

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RAW SEQUENCE LISTING ERROR SUMMARY
PATENT APPLICATION: US/10/500,240

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Input Set : A:\Gfil02pc.app
 Output Set: N:\CRF4\07062004\J500240.raw

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:24; Xaa Pos. 304,305,306,307,308,309,310,311,312,313,314,315,316,317
 Seq#:24; Xaa Pos. 318,416,417,418,419,420,421,422,423,424,425,426,427,428
 Seq#:24; Xaa Pos. 429,430,431,432,433,434,435,436
 Seq#:26; Xaa Pos. 333,334,335,336,337,338,339,340,341,342,343,344,345,346
 Seq#:26; Xaa Pos. 347
 Seq#:36; Xaa Pos. 209,210,211,212,213,214,215,216,217,218,219,220,221,222
 Seq#:36; Xaa Pos. 223,235,236,237,238,239,240,241,242,243,244,245,246
 Seq#:38; Xaa Pos. 183,184,185,186,187,188,189,190,191,192,193,194,195,196
 Seq#:38; Xaa Pos. 197,209,210,211,212,213,214,215,216,217,218,219,220
 Seq#:40; Xaa Pos. 176,177,178,179,180,181,182,183,184,185,186,187,188,189
 Seq#:40; Xaa Pos. 190,202,203,204,205,206,207,208,209,210,211,212,213
 Seq#:42; Xaa Pos. 176,177,178,179,180,181,182,183,184,185,186,187,188,189
 Seq#:42; Xaa Pos. 190,202,203,204,205,206,207,208,209,210,211,212,213
 Seq#:54; Xaa Pos. 65,66,67,68,69,70,71
 Seq#:56; Xaa Pos. 66,67,68,69,70,71,72
 Seq#:58; Xaa Pos. 66,67,68,69,70,71,72
 Seq#:60; Xaa Pos. 80,81,82,83,84,85,86
 Seq#:62; Xaa Pos. 80,81,82,83,84,85,86
 Seq#:68; Xaa Pos. 62,63,64,65,66,67,68,69,70,71,72,73,74,75,76,77,78,79,80
 Seq#:70; Xaa Pos. 43,44,45,46,47,48,49,50,51,52,53,54,55,56,57,58,59,60,61
 Seq#:72; Xaa Pos. 45,46,47,48,49,50,51,52,53,54,55,56,57,58,59,60,61,62,63
 Seq#:78; Xaa Pos. 23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,366,367,368
 Seq#:78; Xaa Pos. 369,370,371,372,373,374,375,376,377,378
 Seq#:80; Xaa Pos. 22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,365,366,367
 Seq#:80; Xaa Pos. 368,369,370,371,372,373,374,375,376,377
 Seq#:82; Xaa Pos. 329,330,331,332,333,334,335,336,337,338,339,340,341
 Seq#:84; Xaa Pos. 324,325,326,327,328,329,330,331,332,333,334,335,336
 Seq#:88; Xaa Pos. 116,117,118,119,120,121,122,123,124,125,126,127,271
 Seq#:90; Xaa Pos. 116,117,118,119,120,121,122,123,124,125,126,127,271
 Seq#:92; Xaa Pos. 88,89,90,91,92,93,94,95,96,97,98,99
 Seq#:94; Xaa Pos. 114,115,116,117,118,119,120,121,122,123,124,125

Invalid Line Length:

The rules require that a line not exceed 72 characters in length. This includes spaces.

Seq#:104; Line(s) 5298
 Seq#:106; Line(s) 5336

VERIFICATION SUMMARY

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Input Set : A:\Gfil102pc.app

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L:10 M:270 C: Current Application Number differs, Replaced Current Application Number
 L:11 M:271 C: Current Filing Date differs, Replaced Current Filing Date
 L:364 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:24 after pos.:288
 M:341 Repeated in SeqNo=24
 L:563 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:26 after pos.:320
 M:341 Repeated in SeqNo=26
 L:1204 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:36 after pos.:208
 M:341 Repeated in SeqNo=36
 L:1378 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:38 after pos.:176
 M:341 Repeated in SeqNo=38
 L:1546 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:40 after pos.:160
 M:341 Repeated in SeqNo=40
 L:1714 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:42 after pos.:160
 M:341 Repeated in SeqNo=42
 L:2242 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:54 after pos.:64
 L:2315 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:56 after pos.:64
 L:2382 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:58 after pos.:64
 L:2461 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:60 after pos.:64
 M:341 Repeated in SeqNo=60
 L:2534 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:62 after pos.:64
 M:341 Repeated in SeqNo=62
 L:2826 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:68 after pos.:48
 M:341 Repeated in SeqNo=68
 L:2935 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:70 after pos.:32
 M:341 Repeated in SeqNo=70
 L:3008 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:72 after pos.:32
 M:341 Repeated in SeqNo=72
 L:3376 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:78 after pos.:16
 M:341 Repeated in SeqNo=78
 L:3598 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:80 after pos.:16
 M:341 Repeated in SeqNo=80
 L:3860 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:82 after pos.:320
 M:341 Repeated in SeqNo=82
 L:4053 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:84 after pos.:320
 L:4298 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:88 after pos.:112
 M:341 Repeated in SeqNo=88
 L:4430 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:90 after pos.:112
 M:341 Repeated in SeqNo=90
 L:4545 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:92 after pos.:80
 M:341 Repeated in SeqNo=92
 L:4657 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:94 after pos.:112